User Manual

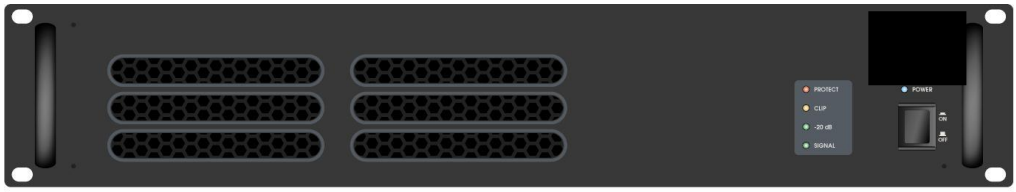
MAJORCOM:

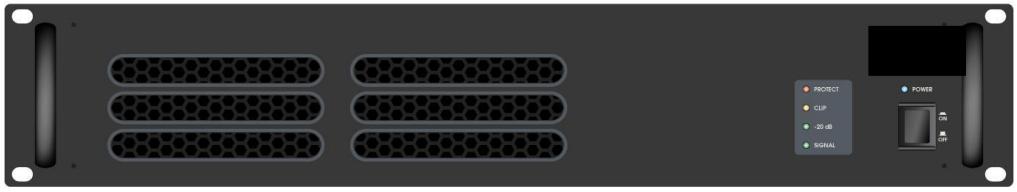
User Manual

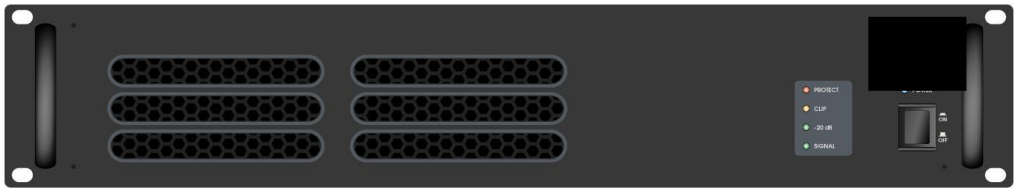
PA120

PA240

PA360







www.majorcom.fr • commercial@majorcom.fr
Services techniques et commerciaux : 56, chemin de la Flambère - 31300 TOULOUSE (France) • Tel. +33 (0)5 61 31 86 87 • Fax. +33 (0)5 61 31 87 73
Siège Social : RN 307 - 78810 FEUCHEROLLES • S.A. Capital 80.000 € • SIRET 334 579 869 000 28 • NAF 4652 Z • TVA Intracommunautaire FR 12334579869

User Manual

MAJORCOM

WARNING

1. Read these instructions - All the safety and operating instructions should be read before this product is operated.
2. Retain these instructions - The safety and operating instructions should be retained for future reference.
3. Heed all warnings - All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow all instructions - All operating and use instructions should be followed.
5. Do not use this apparatus near water - The appliance should not be used near water or moisture - for example, in a wet basement or near a swimming pool, and the like.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
8. Do not install near any heat sources such as radiators, heat registers,stoves,or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the ther. A grounding plug has two blades and a third grounding prong.The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used,use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Please keep the unit in a good ventilation environment.
16. WARNING:To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall not be placed on apparatus.
17. WARNING: The mains plug or appliance inlet is used as disconect device, the disconnect device shall remain readily operable.
18. Power Sources – This product should be operated only from the type of power source indicated on the rating label.If you are not sure of the type of power supply to your home, onsult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer the perating instructions.
19. Safety Check – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
20. Don't touch conductive parts of output terminals to prevent hazardous electrical shock. The external wiring connected to the terminals requires installation by an instructed person or the used of ready - made leads or cords.
21. This equipment is for commercial & professional use only.
22. This product is in compliance with EU WEEE regulations. Disposal of end of life produc should not betrested as municipal waste. Please refer to your local regulations for instructions on proper disposal of this product.

23. To prevent hazardous electrical shock, do not touch the conductive parts of the output terminals.The external wiring connected to the terminals requires installation by an quallified technician or the use of ready made leads or cords.

Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.

This lightning flash is intended to alert the user to the presence of non-insulated "dangerous voltage" on the output terminals that may be of sufficient magnitude to constitute a risk of electric shock.The external wiring connected to the terminals requires installation by an instructed person or the used of ready-made leads or cords.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: To reduce the risk of electric shock, do not remove any cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.

The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of suf ficient magnitude to constitute a risk of electric shock.

The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

CAUTION: To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

User Manual

MAJORCOM:

Table of Contents

Introductions 2
Features 3
Controls 4
Setups 5
Connections 6
Block diagrams ..... 8 Specifications 9
Applications 10

User Manual

Introduction

MAJORCOM

PA120 / PA240 / PA360

Unpacking and Installation

Although it is neither complicated to install nor difficult to operate your amplifier, a few minutes of your time is required to read this manual for a properly wired installation and becoming familiar with its features and how to use them. Please take a great care may be needed when moving your set and are required if it ever becomes necessary to return your set for service. Never place the unit near radiator, in front of heating vents, to direct sun light, In excessive humid or dusty location to avoid damages and to guaranty a long reliable use.

Connect your unit with the system components according to the description on the following pages.

Features

MAJORCOM

The PA120, PA240 and PA360 are comprehensive, qualified power amplifier solutions for commercial and industrial applications. These low-cost units provide all necessary features in a multifarious building-block format.

* One line input and one link output with XLR jacks.
* Low impedance(4Ω) and constant voltage(70V, 100V) output with EURO block terminal.
* 120watts(PA120), 240watts(PA240) and 360watts(PA360) rated power output.
* Advanced protection system includes current limiting, over current and thermal protection.
* 19-inches standard rack mountable type.
* Wide frequency range from 40Hz to 16kHz ± 3dB.
* Low distortion and low noise level.
* Designed for operation on either AC Mains or DC 24V evacuations.
* Adjustable input level from -12dB to 0dB.
* Built in 400Hz high-pass filter.
* Built in high temperature detection and auto muting function.
* Expendable by adding power amplifier with LINK terminal.
* Compact size(2U) and lightweight.
* Ideal commercial and industrial use.

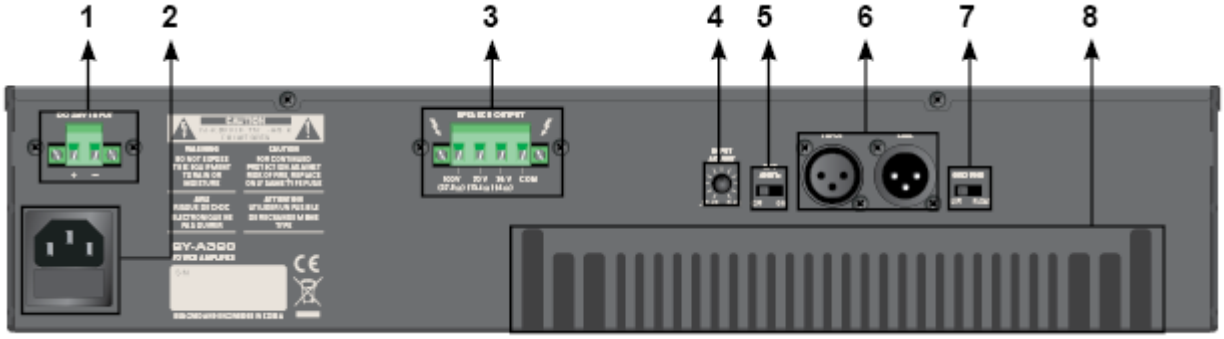
Controls

Front Panels

[Figure 1.1 Front panel diagram]

1. Ventilation fan.
2. Indicators (Protection and Output level)
3. Power switch with power indicator.

Rear Panel



[Figure 1.2 Rear panel diagram]

1. DC +24V input terminal.
2.AC power input connector with fuse holder.

VOLTAGE / MODEL	115 / 120Vac	220 / 230 / 240 Vac
PA120	T4 A / 250V	T3.15 A / 250V
PA240	T8 A / 250V	T4 A / 250V
PA360	T12 A / 250V	T6.3A / 250V

3. Speaker connection terminal (4-ohm, 70V, 100V and COM).
4. Level adjustment (-12dB to 0dB).
5. HPF(400Hz) on/off switch.

6. Signal input and Link output connectors.
7. Ground switch for provide against ground loop.
8. Air flow.

Setups

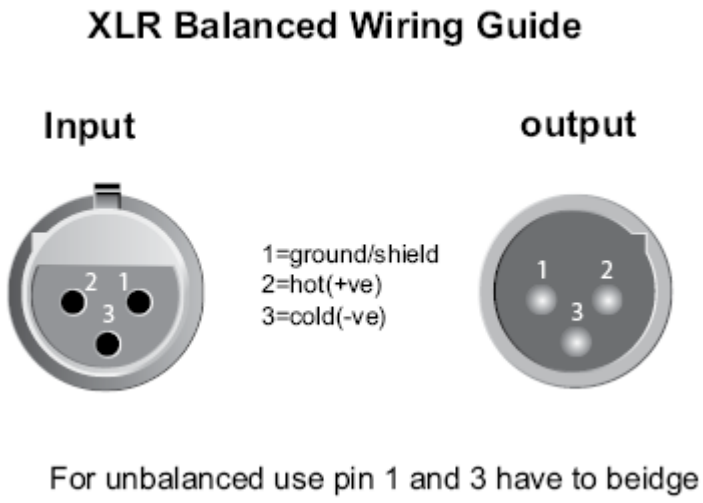
Installation

CAUTION : Before you begin, make sure your amplifier is disconnected from the power source, with the power switch in the “OFF” position.

Wiring Guide

Choose input wire and connectors

HPA recommends using pre-built or professionally wired balanced line. 22 to 24 gauge cables. Figure 2.1 shows connector pin assignments for wiring.



[Figure 2.1 Input wire and connectors]

Choose output wire and connectors

For the amplifier output connectors, HPA recommends using pre-built or professionally wired, high-quality, and heavy gauge speaker wires. You may use EURO blocks for your output connectors. To prevent the possibility of short-circuits, wrap or otherwise insulate exposed loudspeaker cable connectors.

Using the guidelines below, select the appropriate size wire based on the distance from amplifier to speaker. The wire sizes apply to the 4-ohm tap.

Distance	Wire Size
Up to 25 ft.	16 AWG
26~40 ft.	14 AWG
41~60 ft.	12AWG
61~100 ft.	10AWG
101ft~150 ft.	8AWG
151~200 ft.	6AWG

NOTE : Custom wiring should only be performed by qualified personnel. Class 2 wiring is required.

CAUTION : Never use shielded cable for output power wiring

Connections

OUTPUT : Maintain proper polarity on output connectors.

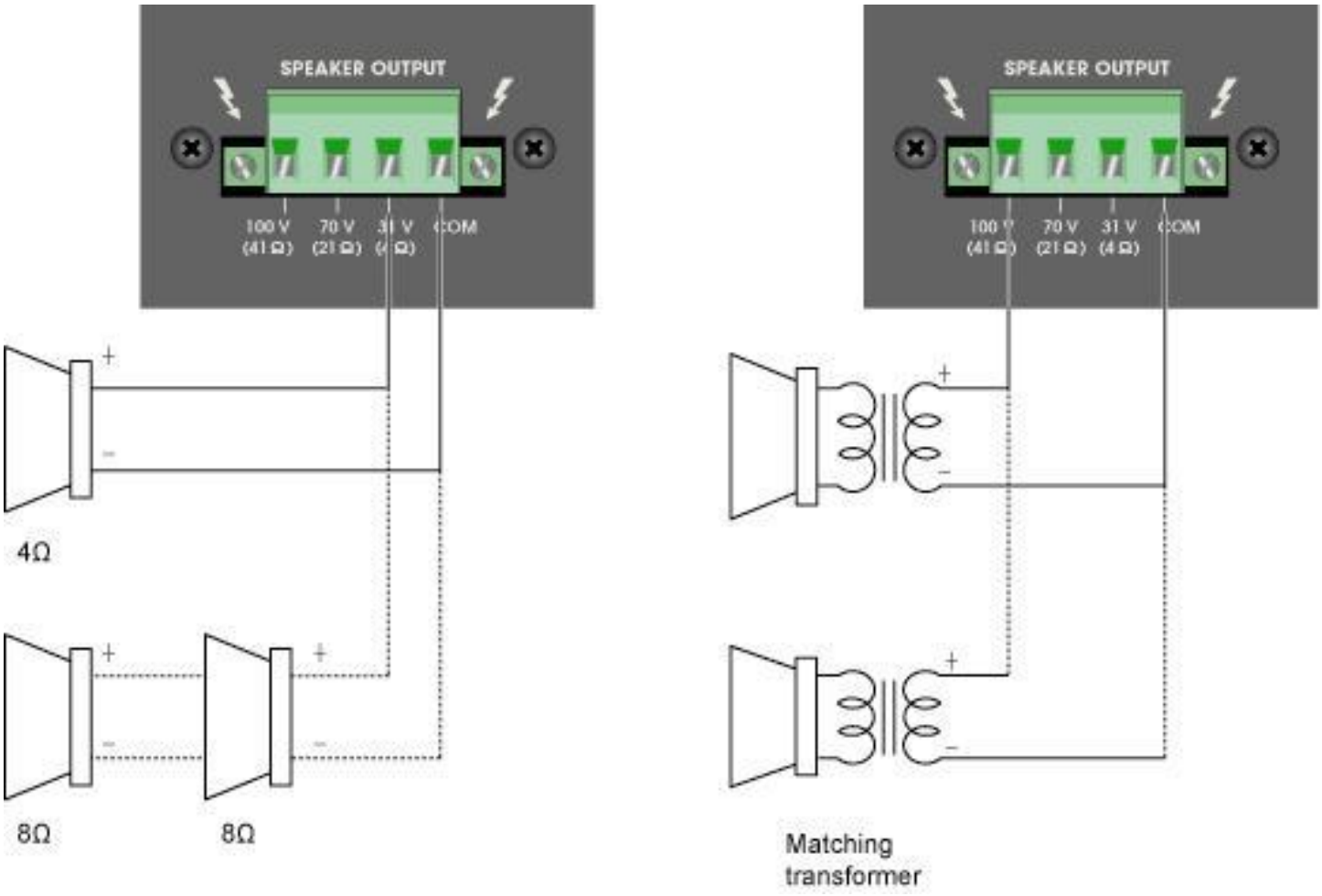
For output channel, connect the output EURO block terminals to the loudspeaker loads. Use terminals marked (4Ω) for a 4-ohm loudspeaker load, or use terminals marked 70V or 100V and COM for constant-voltage loudspeaker loads.

Connect the COM terminal to speaker negative(-) lead; connect one of the other terminals to speaker positive(+) lead.
The impedance and output voltage are same as following Table 1.1

PA-120	4Ω / 22V	41Ω / 70V	83Ω / 100V
PA-240	4Ω / 31V	21Ω / 70V	41Ω / 100V
PA-360	4Ω / 38V	13.6Ω / 70V	27.8Ω / 100V

[Table 1.1 Output voltage and impedance]

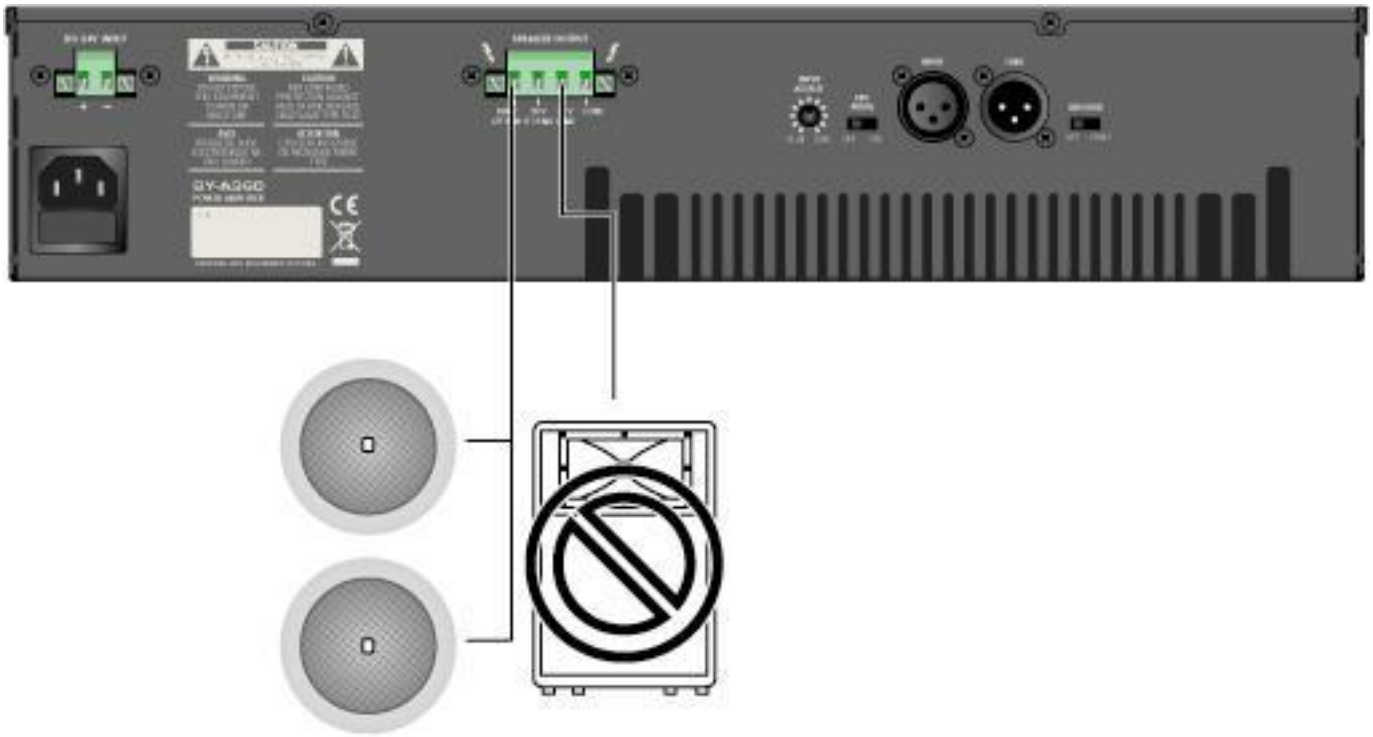
NOTE : Impedances indicated in the table1.1 represent the total speaker system impedances.
Speaker connection is shown in Figure 3.1



[Figure 3.1 How to connect speakers]

Connections

CAUTION : Never use both the Low-Z(4 ohms) and Hi-Z(70V and 100V) terminals at the same time.



[Figure 3.2 Wrong connection]

User Manual

MAJORCOM:

Specifications

	PA120	PA240	PA360
Electrical			
Rated Output (at T.H.D 1.0%, 1kHz)	120Watt	240Watt	360Watt
Gain Control	-12dB ~ 0dB		
Input Sensitivity (at Balanced line)	1.0 ± 0.1Vrms / 10Kohm		
High-pass Filter(at 400Hz)	-3dB		
Frequency Response	+1.5 / -3 dB at 70Hz~18kHz		
S/N Ratio	Better than 90dB		
T.H.D at 1/2 rated output, 1kHz	Less than 1.0%		
Output Voltage and Impedance	4Ω / 22V	4Ω / 31V	4Ω / 38V
	41Ω / 70V	21Ω / 70V	13.6Ω / 70V
	83Ω / 100V	41Ω / 100V	27.8Ω / 100V
Construction			
Cooling	FAN		
Operating Temperature/Humidity	0°~40°C at 95% at non-condensing		
Dimensions (Width/Height/Depth)	482 mm X 88 mm X 340 mm		
Net Weight	11.65kg	13.87kg	15.16kg
Power Consumptions at 1/8 power	185W	361W	525W

Power Requirement	AC100V~240V, 50/60Hz and/or DC24V

Necessary modifications are carried out without notice